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10/791,480	03/02/2004	Ken Ohmura	KON-1857	2121
20311	7590	11/27/2006	EXAMINER	
LUCAS & MERCANTI, LLP 475 PARK AVENUE SOUTH 15TH FLOOR NEW YORK, NY 10016			DOTE, JANIS L	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/791,480

Applicant(s)

OHMURA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12 and 14-20 is/are rejected.
- 7) ☒ Claim(s) 2,11 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/2/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

In Fig. 1, reference characters **41** and **42**. See the instant specification, pages 7-10.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g., Henschel mixer [sic: HENSCHEL MIXER] at page 57, line 13, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be

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respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

Appropriate correction is required.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

(1) In claim 12, the broadly recited description of the toner intermediate chamber lacks antecedent basis in the specification.

(2) In claim 15, the limitation "transporting the toner out of the toner intermediate chamber by use of a gas stream" lacks antecedent basis in the specification. See the instant specification, page 13, lines 13-15, which discloses that the "[t]oner is agitated in the hollow toner intermediate chamber by the gas stream in toner intermediate chamber **242**, and removed out through ejecting outlet **242c**." The instant specification does not disclose that the toner is ejected using a gas stream as recited in instant claim 15.

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(3) In claim 16, the broadly recited description of the toner intermediate chamber lacks antecedent basis in the specification.

(4) In claim 17, the toner receiving section broadly recited in the claim lacks antecedent basis in the specification.

(5) In claim 20, the image forming apparatus broadly recited in the claim lacks antecedent basis in the specification.

4. The examiner notes that the instant specification at page 15, lines 16-22, defines the term "amorphous polyester" recited in instant claims 5-7 and 11 as "polyester molecules, a clear crystal structure which is not recognized by means of X-ray diffraction, occupy at least 50 mol% of the total component molecules. More specifically, polyester molecules, which have a crystallization degree of less than 0.1% occupy not less than 50% of the total component molecules, are known as amorphous polyester." This "definition" appears to be consistent with other definitions of "amorphous polyester" in the record, as indicated elsewhere in this action.

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5. The following is a quotation of the second paragraph of 35

U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 12, 14-17, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is indefinite in the phrase "discharging separated toner" because it is not clear from the toner is separated from.

Claim 12 is further indefinite in the phrase "at least a portion of said toner receiving port is situated at the upper portion in the vertical direction of said gas stream introducing section" (emphasis added) for lack of unambiguous antecedent basis in the claim. Claim 12 previously recites that the intermediate chamber comprises "a toner receiving port" and "a gas stream introducing inlet." Claim 12 does not recite the presence of a gas stream introducing section. Furthermore, it is not clear what is meant by the phrase "situated in the vertical direction of . . ."

Claim 14 and claims dependent on claim 14 are indefinite in the phrase "a step of separating the toner in the toner

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intermediate chamber" because it is not clear from what the toner is being separated.

Claim 19 is indefinite in the phrase "a step of fixing transferred toner" because it is not clear to what the transferred toner is fixed.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to

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point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

10. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-319813 (JP'813). See the Japanese Patent Office (JPO) machine-assisted translation of JP'813 for cites.

JP'813 discloses an image forming apparatus that comprises: (1) a photoconductor **1**; (2) a cleaning device **4**; (3) a toner feeding device **6**, which comprises a tube **6a**, i.e., the "toner feeding section"; (5) a "gas style migration device" **5**, which comprises a screw pump **5a** and a gas supplying device **5b**, i.e., a "transport device"; (6) a recovered toner production device **7**, i.e., the "toner intermediate chamber"; (7) a developing device **2**, which comprises a toner hopper **2e**, i.e., the "toner receiving section"; and (8) a transport tube connecting the recovered toner production device **7** and the hopper **2e**. See JP'813, Figs. 1 to 3; and the translation, abstract, paragraph 0005, paragraph 0009, lines 11-13, and paragraphs 0010-0012. The cleaning device **4** removes the untransferred toner from the photoconductor **1**. The removed-untransferred toner from the cleaning device **4** is fed into the screw pump **5a**, then fluidized by compressed air supplied by the



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gas supplying device **5b**, and then transported as a "gas flow" comprising the removed toner and air through the tube **6a** to the recovered toner production device **7**. The "gas flow" travels through the recovered toner production device **7**, where "foreign matter" is separated from the removed toner to form the "recovered toner." The "gas flow" comprising the recovered toner is transported from the recovered toner production device **7** to the hopper **2e** via the transport tube. The apparatus meets the structural components recited in instant claim 20.

JP'813 does not exemplify an apparatus using the particular toner recited in instant claim 20. However, instant claim 20 does not positively recite that the apparatus comprises the particular toner. Instant claim 20 merely recites, for example, "a toner feeding section which transfers toner to the toner receiving member." The particular toner recited in instant claim 20 does not distinguish the structural elements in the instantly claimed apparatus from those in the apparatus disclosed by JP'813. A material (i.e., the toner) worked upon by the apparatus does not limit the apparatus claims.

"Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims."

See MPEP 2115. It is well settled, as stated in Ex parte

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Masham, 2 USPQ2d 1647, 1648 (Bd. Pat. App. & Int. 1987) that "a recitation with respect to the material intended to be worked upon by a claimed apparatus does not impose any structural limitations upon the claimed apparatus which differentiates it from the prior art apparatus satisfying the structural limitations of that claimed." Accordingly, the particular toner recited in instant claim 20 does not distinguish the instantly claimed apparatus from the apparatus disclosed by JP'813.

11. US 2003/0148204 A1 (Ohmura) was published on Aug. 7, 2003, and has an effective filing date of Dec. 4, 2002, which are both prior to the filing date of Mar. 2, 2004, of the instant application. The inventive entity of Ohmura differs from that of the instant application. Thus, Ohmura qualifies as prior art under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e). Accordingly, Ohmura qualifies also as prior art under 35 U.S.C. 103(c).

12. Claims 1, 3, 4, 8-10, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'813 combined with Ohmura. See the JPO translation of JP'813 for cites.

JP'813 discloses an image forming method comprising the steps of: (1) developing an electrostatic latent image on the photoconductor **1** with a toner to form a toner image;

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(2) transporting the toner image to a receiving member;

(3) fixing the toner image to the receiving member; (4) removing untransferred toner from the surface of the photoconductor **1** with cleaning device **4** and collecting the removed-untransferred toner for reuse; (5) transporting the collected-removed-untransferred toner to a recovered toner production device **7**, i.e., the "toner intermediate chamber"; and (6) separating "foreign matter" from the collected-removed toner in the recovered toner production device **7** to produce "recovered toner." The JP'813 process steps meet the process steps recited in instant claims 1, 14, and 19, but for the particular toner recited in the instant claims. See JP'813, Figs. 1 to 3; and the translation, abstract, paragraph 0005, paragraph 0009, lines 11-13, and paragraphs 0010-0012. According to JP'813, the collected-removed toner from the cleaning device **4** is fed into the screw pump **5a**, then fluidized by compressed air supplied by the gas supplying device **5b**, and then transported as a "gas flow" comprising the collected-removed toner and air through a transport tube **6a** to the recovered toner production device **7**. The recovered toner production device **7** has a cylindrical structure, as recited in instant claim 14. See Figs. 2 and 3. The recovered toner production device **7** comprises a toner receiving port, where the "gas flow" of collected-removed toner

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and air enters the recovered production device **7** via the transport tube **6a**. The toner receiving section port meets the "gas stream introducing inlet" recited in instant claim 16. The "gas flow" enters a toner receiving section of the recovered toner production **7**, where "foreign matter" is separated from the collected-removed toner to form the "recovered toner." The "gas flow" comprising the remaining-recovered toner exits the recovered toner production device **7** through a discharge port and travels to a hopper **2e** of the developing device **2** via a transport tube. See Figs. 2 and 3. Said discharge step meets the discharge step recited in instant claim 15. The recovered toner production device **7** meets the structural component limitations recited in instant claims 1 and 14-17.

As discussed above, JP'813 does not exemplify the use of a toner as recited in the instant claims.

Ohmura discloses a toner that has an average circularity of 0.96, an average circle-equivalent diameter of 4.4  $\mu\text{m}$ , and a "circularity gradient versus the circle-equivalent diameter," i.e., "slope of a circularity compared to an equivalent circle diameter," of -0.031. See paragraphs 0024 to 0031, and preparation of Toner 1 at paragraphs 0163-0166 and in Table 1 at page 11. The average circularity value of 0.96, the average circle-equivalent diameter value of 4.4  $\mu\text{m}$ , and the gradient

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value of -0.031 meet the circularity and particle size limitations recited in instant claims 1, 3, and 8-10. The toner is obtained by the process steps recited in instant claim 4. Ohmura further teaches that the toner may comprise a releasing agent. Paragraphs 0096 and 0111-0115. Thus, the Ohmura toner meets the toner limitations recited in instant claims 1, 3, 4, 8-10, and 18. According to Ohmura, its toner "makes it possible to form high quality images without resulting in insufficient fixing." Paragraph 0008 and Table 2, example 1 and the accompanying text. Table 2 reports that the toner in example 1 provided uniform imaged copies; and that after 100,000 copies, "toner filming" was not observed on the photoconductor or on the developing roll.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Ohmura, to use the Ohmura toner as the toner in the image forming method disclosed by JP'813. That person would have had a reasonable expectation of successfully obtaining an image forming method that provides high quality fixed toner images.

13. Claims 1, 4, 5, 8, 9, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'813 combined

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US 6,528,224 B2 (Ohno). See the JPO translation of JP'813 for cites.

JP'813 discloses an image forming method as described in paragraph 12 above, which is incorporated herein by reference. As discussed in paragraph 12 above, the JP'813 method meets the steps recited in the instant claims, but for the particular toner recited in the instant claims.

Ohno exemplifies a toner that has an average circularity of 0.971 and an average circle-equivalent diameter of 3.5  $\mu\text{m}$ . See toner F at col. 30, lines 32-52, and in Table 3 at cols. 31-32. Toner F comprises a polyester resin and Wax B, which is described in Table 2 at col. 29, as the releasing agent. Col. 29, line 44. The average circularity value of 0.971 and the average circle-equivalent diameter value of 3.5  $\mu\text{m}$  meets the circularity and particle size limitations recited in instant claims 1, 8, and 9. Thus, the Ohmura toner meets the toner limitations recited in instant claims 1, 5, 8, 9, and 18. According to Ohno, its toner has excellent fixability and anti-offset properties. The toner stably provides "high-quality images for a long period of time without adversely affecting members, such as an electrostatic image-bearing member and a toner-carrying member." Col. 3, lines 59-67.

Instant claim 4 is written in product-by-process format. Ohno does not disclose that its toner is made by the process recited in instant claim 4. However, as discussed above, the Ohno teaches a toner that meets the compositional and physical limitations recited in instant claim 4. Thus, the toner disclosed by prior art appears to be the same or substantially the same as the toner recited in instant claim 4 obtained by process steps recited in claim 4. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Ohno, to use the Ohno toner as the toner in the image forming method disclosed by JP'813. That person would have had a reasonable expectation of successfully obtaining an image forming method that stably provides "high-quality images for a long period of time without adversely affecting" the photoconductor and toner-carrying member.

14. Claims 1, 4, 5, 8, 9, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'813 combined with Japanese Patent 2000-010333 (JP'333). See the JPO translations of JP'813 and JP'333 for cites.

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JP'813 discloses an image forming method as described in paragraph 12 above, which is incorporated herein by reference. As discussed in paragraph 12 above, the JP'813 method meets the steps recited in the instant claims, but for the particular toner recited in the instant claims.

JP'333 exemplifies a toner that has an average circularity of 0.984 and an average circle-equivalent diameter of 4.1  $\mu\text{m}$ . See the translation of JP'333, abstract and toner B in paragraph 0152 and in Table 1 at page 18. Toner B comprises a styrene-acrylate resin, a polyester resin, and an ester wax as the releasing agent. Translation, paragraph 0145. The average circularity value of 0.984 and the average circle-equivalent diameter value of 4.1  $\mu\text{m}$  meets the circularity and particle size limitations recited in instant claims 1 and 9. The JP'333 average circularity of 0.984 is outside the range of 0.95 to 0.98 recited in instant claim 8. However, JP'333 further teaches that the average circularity can range from 0.960 to 0.995. Translation, paragraph 0034. The lower value, 0.960, of the range of 0.960 to 0.995, is within the range recited in instant claim 8. Thus, JP'333 teaches a toner that meets the toner limitations recited in instant claims 1, 5, 8, 9, and 18. According to JP'333, its toner stably provides high grade images for a long period of time without adversely affecting either the



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photoconductor or the dry toner application member.

Paragraph 0025.

Instant claim 4 is written in product-by-process format. JP'333 does not disclose that its toner is made by the process recited in instant claim 4. However, as discussed above, the JP'333 teaches a toner that meets the compositional and physical limitations recited in instant claim 4. Thus, the toner disclosed by prior art appears to be the same or substantially the same as the toner recited in instant claim 4 obtained by process steps recited in claim 4. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; and MPEP 2113.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of JP'333, to use the JP'333 toner as the toner in the image forming method disclosed by JP'813. That person would have had a reasonable expectation of successfully obtaining an image forming method that stably provides high-quality images for a long period of time without adversely affecting the photoconductor and dry toner application member.

15. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'813 combined with JP'333, as applied to

claim 1 above, further combined with US 5,387,665 (Misawa). See the JPO translations of JP'813 and JP'333 for cites.

JP'813 combined with JP'333 renders obvious an image forming method as described in paragraph 14 above, which is incorporated herein by reference.

As discussed in paragraph 14 above, JP'333 exemplifies a toner that has an average circularity of 0.984 and an average circle-equivalent diameter of 4.1  $\mu\text{m}$ , which meet the circularity and particle size limitations recited in instant claims 6 and 7. Ohno does not exemplify a toner comprising an amorphous urethane-modified polyester resin as recited in instant claim 7. However, Ohno teaches that the toner binder resin can be a polyester resin. Paragraph 0046, line 2. Ohno further teaches that its toner can be made by a melt-knead-pulverization method where the pulverized toner particles are further treated to a process of smoothing and conglobation, i.e., spherizing, and then classified into a narrow particle size distribution. Translation, paragraph 0068.

Misawa teaches a degradable amorphous urethane-modified polyester resin for use as a toner binder resin. See col. 3, lines 39-51, and, for example, examples 25-38 at cols. 13-14 and in Table 4. The amorphous urethane-modified polyester resin is obtained by reacting a diisocyanate with a polyester, which is

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prepared by reacting an amorphous poly( $\alpha$ -hydroxycarboxylic acid) with a polyol. Misawa further teaches that toners comprising its amorphous polyester resin can be obtained by a melt-kneading-pulverization-classification method. Col. 7, lines 49-54.

According to Misawa, toners comprising said amorphous urethane-modified polyester binder resin have excellent grindability, resistance to hot offset, storage stability, and fixing properties. Col. 3, lines 4-14, and Table 4. Misawa further teaches that toner images made from said toners formed on paper can be efficiently removed from the paper, thereby recycling the paper for further reuse. Said toners are also biodegradable. Col. 1, lines 34-41 and 43-58.

Misawa does not define the term "amorphous polyester resin" as disclosed in the instant specification. See paragraph 4, supra. Misawa defines a poly( $\alpha$ -hydroxycarboxylic acid) as "amorphous" when it does not have a melting point. Such amorphous polyesters are said to be prepared by directly dehydrating and polycondensing a mixture of optical isomers of  $\alpha$ -hydroxycarboxylic acid or several kinds of  $\alpha$ -hydroxycarboxylic acid. Col. 4, lines 36-41. Because Misawa teaches that its amorphous urethane-modified polyester resin does not have a melting point, it is reasonable to presume that it does not show a "clear crystal structure" by X-ray diffraction because it

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lacks the required regular molecular order. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of JP'333 and Misawa, to make a toner comprising the Misawa amorphous urethane-modified polyester resin as the toner binder resin by the melt-kneading-pulverization-smoothing-sphering-classification method as taught by JP'333, such that the resultant toner has an average circularity and an average equivalent-circle diameter as taught by JP'333. It would have also been obvious for that person to use the resultant toner in the image forming method disclosed by JP'813. That person would have had a reasonable of successfully obtaining an image forming method that provides high-quality fixed images on paper as taught by JP'333, with little, if any, hot offset as taught by Misawa, where the fixed images can be efficiently removed from the paper and the paper recycled for further use.

16. Claims 2, 11, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten

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in independent form including all of the limitations of the base claim and any intervening claims.

Claim 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art of record, in particular JP'813, does not teach or suggest the process step recited in instant claims 2 and 11-13, wherein the toner intermediate chamber is "provided with a cylindrical or conical structure situated in the vertical direction which separates paper dust or toner granules toward the bottom of said toner intermediate chamber by utilizing spiraling flow of gas." See JP'813, Figs. 2-4, which represent various versions of the JP'813 recovered toner production device 7. None of the JP'813 recovered toner production devices has a cylindrical or conical structure which separates paper dust or toner granules toward the bottom of the device by utilizing spiraling flow of gas, as recited instant claim 2.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the

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organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLD

Nov. 17, 2006

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GROUP 1500-  
1700